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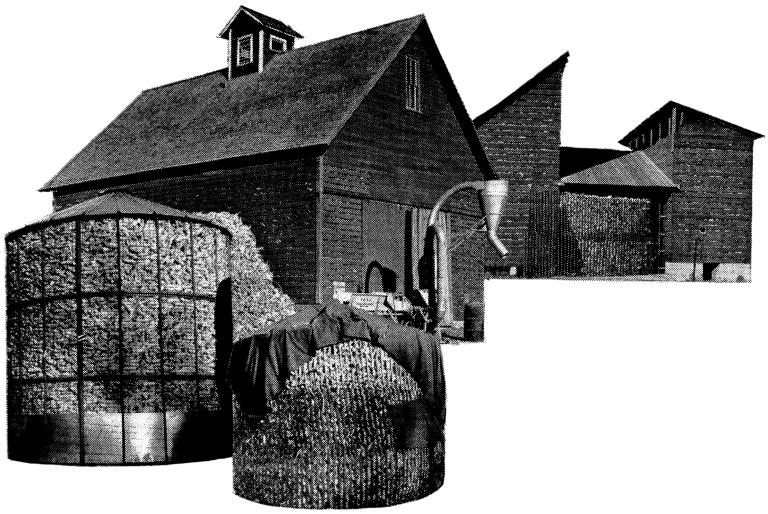


When Does It Pay to STORE GRAIN?

by Geoffrey S. Shepherd

DOES IT PAY farmers to store grain for several months after harvest before selling it? Or does it pay better to sell the grain direct from the harvest field?

The answer depends on whether the price or loan value you expect to get after storage will be high enough to cover the costs of storage. Let's look at the price side first; then at costs.

Seasonal Price Rise . . .

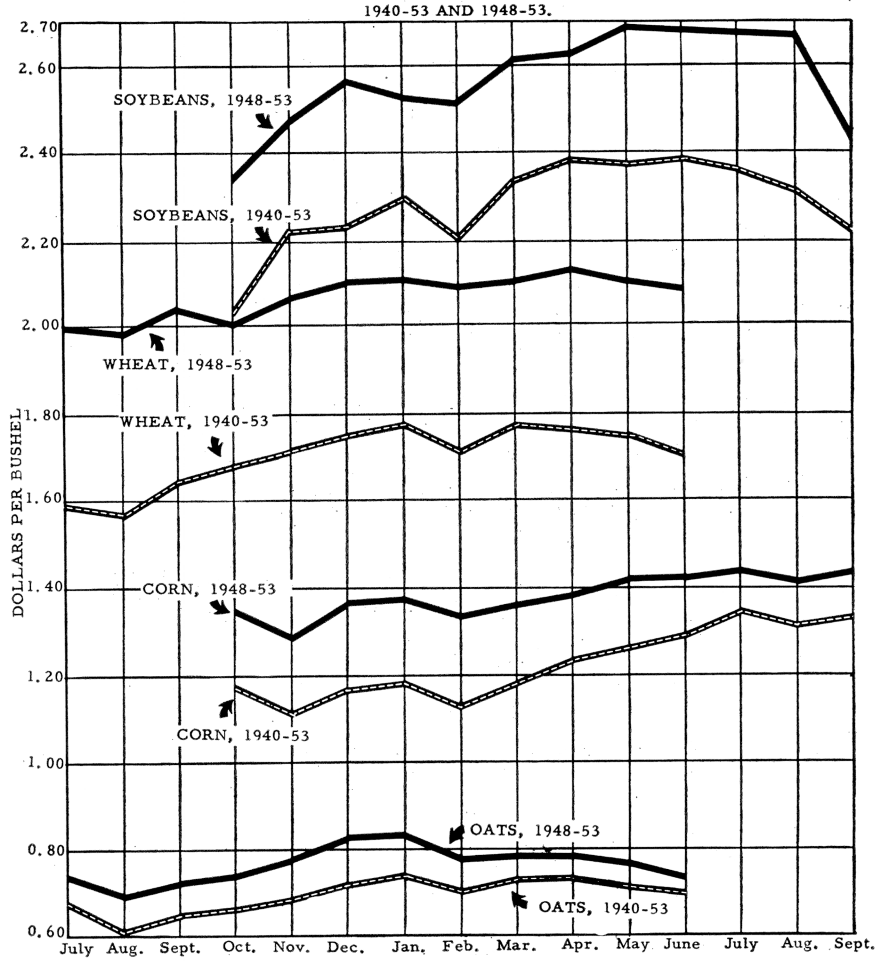
On the average, how much do grain prices rise through the season? It depends on how far you go back in figuring the average. You may go back 5 years and get one answer. If you go back to 1940, you get another because this would include the inflation years when prices rose rapidly; in this instance, the average seasonal price rise comes out relatively high.

If you include the extreme drouth years 1934-36, this makes the average seasonal price rise still higher—even though the farm price level then was only a third as high as it is now. Should you back up farther yet and include the deflation years 1929-33, this reduces the average seasonal price rise. Going still farther back gets into pretty ancient history; the way prices behaved then doesn't have much bearing on what they're doing now.

So we'll furnish two different averages over two recent periods and let you compare them yourself.

Chart 1 shows the average

CHART 1. AVERAGE MONTHLY IOWA FARM PRICES FOR CORN, SOYBEANS, WHEAT AND OATS, 1940-53 AND 1948-53.



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prices received by Iowa farmers for corn, oats, wheat and soybeans by months for two different periods of years. One period extends from 1940 to 1953. The other covers only the past 5 years, 1948-53. The average seasonal price rise over the two periods is listed in table 1.

The average rises over the period 1940-53 are all higher than the averages over the 1948-53 period, except for soybeans. The 1948-53 period is the most nearly free of inflationary influences. It most closely represents what can be expected in the future—if we're able to avoid both inflation and deflation and keep the general price level about where it is now.

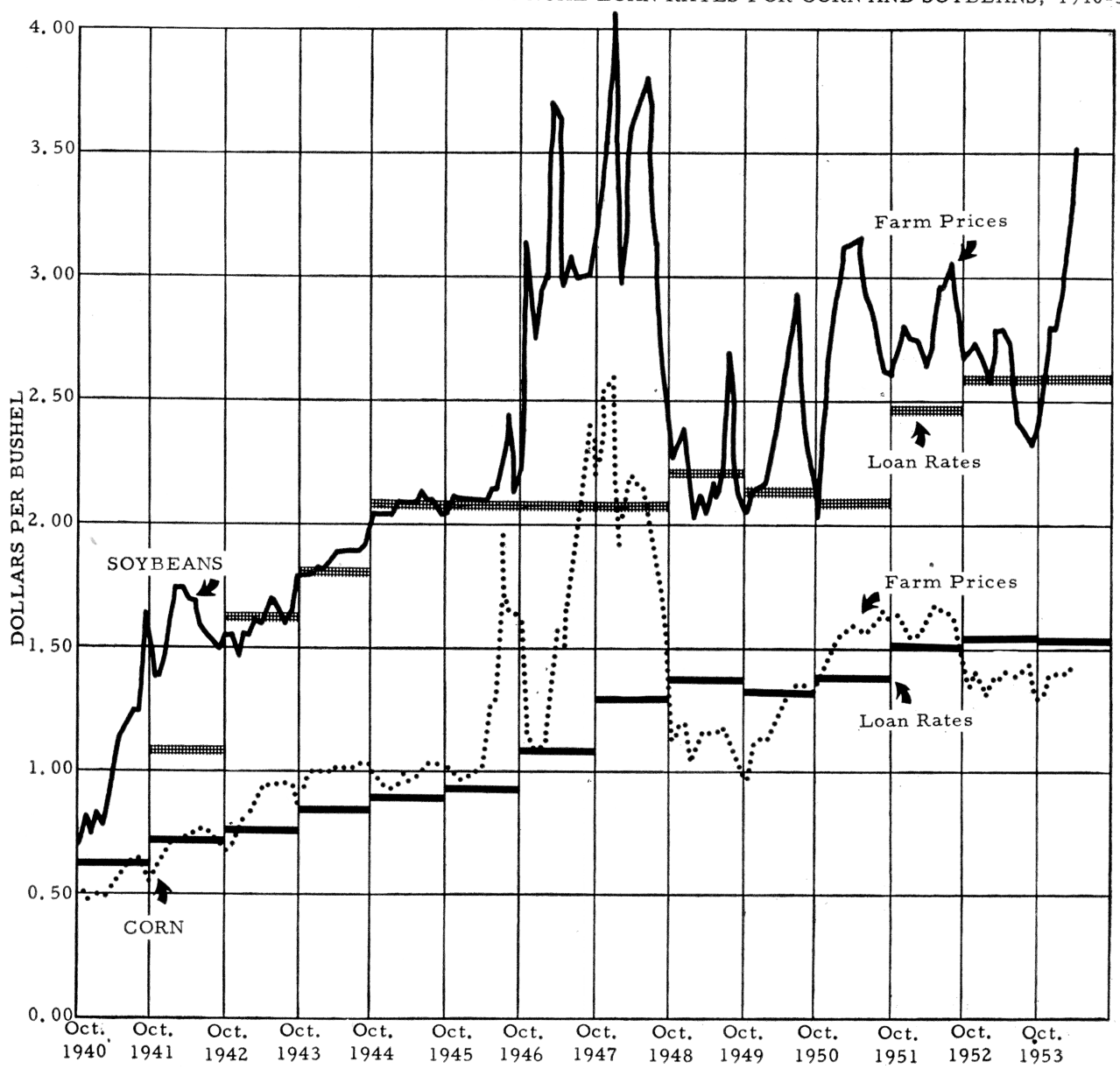
But Watch Averages!

The trouble with average seasonal movements is that they're not at all closely followed each year. Charts 2 and 3 show this. Prices rise a lot more than average in some years—and a lot less than average or actually decline in some other years. We need to re-

TABLE 1. Average Seasonal Price Rises, 1940-53 and 1948-53

Commodity	Low month	High month	Price rise (cents per bushel)	
			1940-53	1948-53
Corn	November	July-Sept.	23	15
Oats	August	Dec.-Jan.	14	13
Wheat	August	March-May	19	12
Soybeans	October	May-June	20	35

CHART 2. MONTHLY IOWA FARM PRICES AND ANNUAL LOAN RATES FOR CORN AND SOYBEANS, 1940-53.



member what happened to the fellow who tried to wade across the river that was only 2 feet deep *on the average.*

Looking at chart 2 more closely, we can see how much the seasonal price pattern changes from year to year. Notice how the average that includes the war years has erratic price movements that spoil the reliability of the average as a guide to the future. The chart shows clearly that the average based on the relatively quiet years of 1948-53 is a better guide to the future.

The charts also show how the peak month may come early in the season in some years and late in others. This is a reminder that we can't just subtract the price of the low-price month from the price of the high-price month and say that the difference between the two is the gain you could have made by storing. Why not? Because you could have realized that gain only if you could have forecast in advance the time when the peak price was coming—and only if you could have told *at that time* that the price had reached its seasonal peak.

It's easy to look back after the end of the season and show where the highest point *was,* but it's next to impossible to look ahead at the beginning of the season and say when the peak will come.

Do Better?

Can we do any better than just accept the average seasonal price rise as given in chart 1?

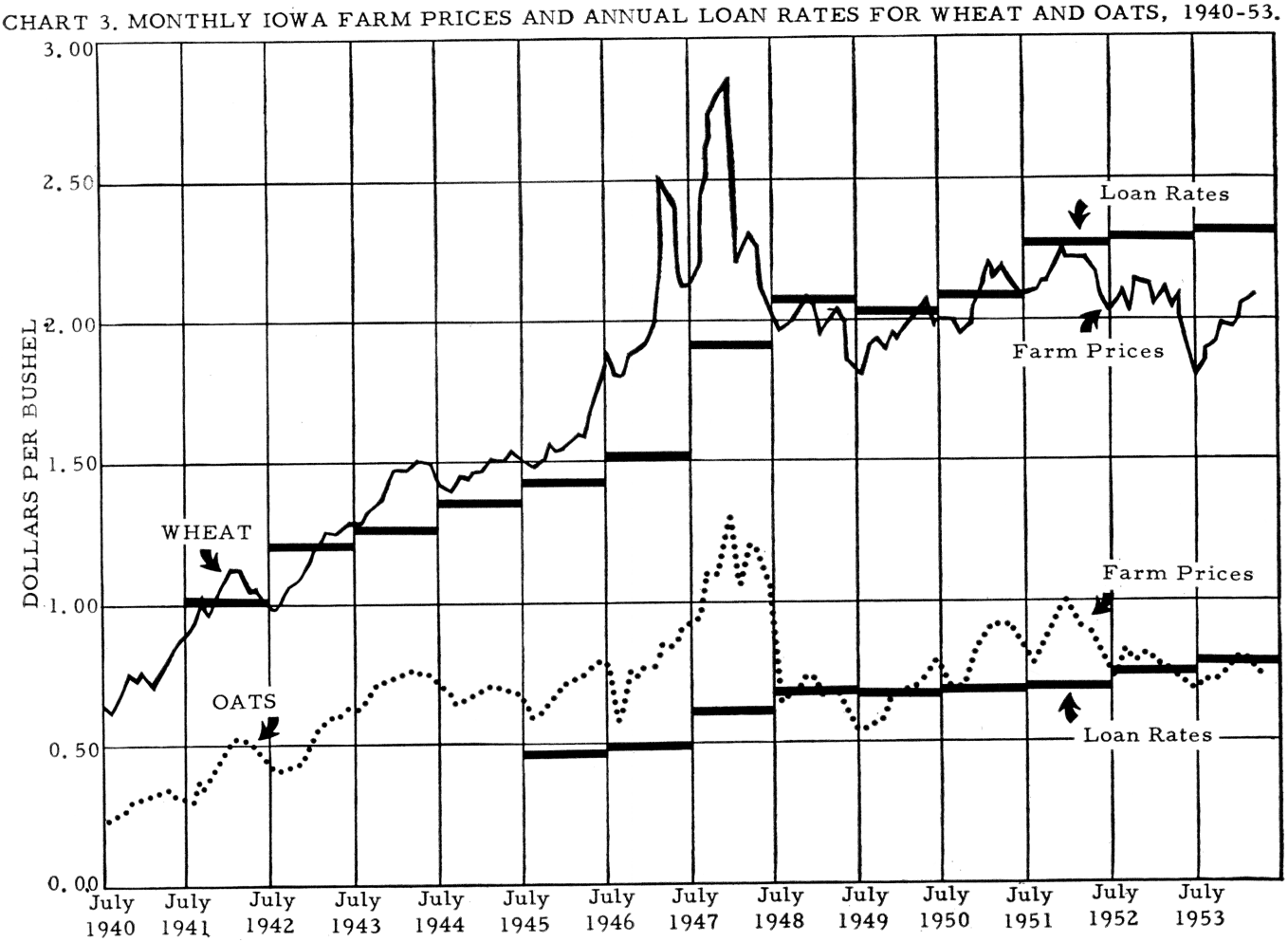
We can isolate some of the factors that will make the price rise more or less than usual or that will bring the peak earlier or later than usual. We used to be able to say: After a big crop, store until late in the season—for the next year's crop is likely to be smaller, and the effect of that smaller crop on price will show up before the new crop is harvested, boosting the price you can get on the old crop. For opposite reasons, after a small crop, sell soon after harvest; next year's crop will probably be larger and pull down the price before the old crop season is over.

These rules don't work out so well now. The CCC puts a floor under the big crops that retards the decline in prices, though not halting it completely. And short crops don't put the price up so high as they used to; the excess supplies that were withdrawn from the market in good crop years are returned to the market then. But the rules are still worth keeping in mind.

Another way to size up whether to store or not is to regard the whole matter as a plain and simple gamble—where the odds are, say, 2 out of 3 that the seasonal rise in price will be enough to cover storage costs and 1 out of 3 that it won't. Or maybe the odds are only 1 to 3 that storage will pay and 2 to 3 that it won't.

What does the record show on the nature of this gamble? Frank-

CHART 3. MONTHLY IOWA FARM PRICES AND ANNUAL LOAN RATES FOR WHEAT AND OATS, 1940-53.



ly, what the record says isn't much help. The record over the past 15 years is misleading rather than helpful—unless we expect the price level to double in the future the same as it did in the past. If the price level remains fairly level in the future, the record over the past 5 years is a more reliable guide, even though it's pretty short.

Every man is his own gambler. We can only suggest that you study the seasonal behavior of prices in each of the years shown in the charts. Then decide how much of a chance you want to take. There's also the question each year of whether it will pay to store and seal and deliver to the CCC for the loan value. For this reason, we've drawn the loan values in each year on the chart, along with the prices.

It's clear from the chart that the Iowa farm price of corn in years of good crops may run 20 cents or more below the loan rate. Present indications point to a good corn crop coming on this year. The carryover stocks of old corn on Oct. 1 will be the largest on record—nearly 900 million bushels. Acreage restrictions are in effect, but many farmers are not participating and therefore aren't eligible for loans.

This combination of factors is likely to depress the open-market price of corn farther below the loan rate than normal. This year, then, may be an unusually good one to put corn into storage under loan—if you're taking part in the acreage-restriction program and are eligible for loans—and turn it in to the CCC for the loan rate. This supposes that the CCC will have a place to put it.

That is an additional element in the gamble this year. You might be able to pay a substantial part of the cost of a new bin on this kind of an operation this year.

Storage Costs . . .

So much for the possible gross gains from grain storage. What are the costs so we can figure out possible net returns? Figures on costs were given in "More Grain Storage on Iowa Farms" in the July 1954 issue of IOWA FARM SCIENCE. Here are some additional figures:

A recent FCA study of grain storage costs in three different states (Oklahoma, North Dakota and Indiana) concludes that storage costs on farms, including the fixed overhead on the bin, ranged between 14 and 18 cents a year. The costs of storing in local elevators ranged up to 10 cents for 12-month storage (in Indiana, up to 17 cents on a strictly proportional-to-time basis). For 6-month storage, local elevator costs ranged from 5 to 8 cents—about half as high as farm costs.

Another recent study by L. J. Norton of Illinois puts the cost of storing ear corn in cribs on the farm at 18 cents for 6 months and 20 cents for 9 months.

These charges include 2 cents for taxes on the value of the corn assessed at $1 per bushel after the assessment date (April 1 in Illinois). In Iowa there are no taxes unless the corn is stored for more than 1 year, and even after that the taxes are only 25 cents per 1,000 bushels. So the costs in Iowa would be 16 cents for 6 months and 18 cents for 9 months.

If you already have a bin on your farm and want to consider only the direct or variable costs of storage, reduce these figures by about 10 cents per bushel.

In the case of corn, which normally can't be shelled and stored in an elevator right after harvest unless it's artificially dried, additional costs for drying should be added to the costs of storing in elevators.

The effects of "shrink" (loss of moisture) of corn are difficult to figure. Usually, you come out with fewer bushels (by weight) but with a higher grade that's worth more per bushel. Norton figures that the net effect of this shrink and rise in grade amounts to a net gain of about 3½ cents per bushel for 19-percent moisture corn stored until it gets down to 15-percent moisture at $1.50 per bushel.

These are the costs that might be incurred if the bins are used for storage every year. If the bins are used only in years when storage looks profitable, it would increase the overhead or fixed costs per year when grain is stored.

Norton puts this fixed cost at about 10 cents per year. If grain were stored only every other year, the fixed costs would be 20 cents per year corn is stored. The chances of covering the fixed costs plus the variable costs of 8 to 10 cents—a total cost of 26 to 28 cents in Iowa—are rather slim, except in the case of soybeans.

One last item: Notice that corn prices usually reach a minor peak in January. It may pay you to hold your corn briefly, from November to January, in very cheap cribs made from snow fence or other inexpensive stuff that will do for cold weather storage. If you want to hold corn for longer periods in more substantial structures, remember that you can earn 15 cents storage allowance on re-sealed corn.

Storage Profits . . .

By comparing the costs with the seasonal price patterns, we can reach several conclusions:

- The 1948-53 *average* seasonal price rise for oats and wheat (12 to 13 cents) is less than the cost of storing these grains on the farm. The rise is little more than the cost of storing them in a local elevator if elevator space is available.

- The *average* seasonal price rise for corn from November to September hardly covers the cost of farm storage, though the improvement in grade may help. It may pay to hold corn from November to January in temporary cribs.

- The *average* seasonal price rise for soybeans is more than twice as great as needed to cover the cost of farm storage.

- The years when storage will pay better than average are pretty hard to predict. Usually, it's more profitable to store after a big crop than after a small crop. But if you store only in the years when it looks as if storage will be profitable, this increases the overhead or fixed costs per year when the grain is stored. And it's difficult to predict the years when prices will rise that much.